

Title (en)
HYSTERETIC BOOST CONVERTER WITH INDUCTOR PEAK CURRENT GEAR-SHIFTING

Title (de)
HYSTERESE-AUFWÄRTSWANDLER MIT SCHALTUNG DES INDUKTIVITÄTSPITZENSTROMS

Title (fr)
CONVERTISSEUR ÉLÉVATEUR À HYSTÉRÉSIS AVEC CHANGEMENT DE VITESSE DE COURANT DE CRÊTE DE BOBINE D'INDUCTION

Publication
EP 3973627 A4 20220831 (EN)

Application
EP 20791057 A 20200413

Priority
• US 201916384041 A 20190415
• US 2020027944 W 20200413

Abstract (en)
[origin: US2020328679A1] An electronic device has a DC/DC boost converter that includes a power NFET. The power NFET is coupled between a first pin, which can be coupled to a battery through an inductor, and a second pin that can be coupled to a ground plane. A switch-node is coupled to a third pin, which can be coupled to a diode to provide a boosted output voltage. A gate driver can receive a FET-on signal and drive a gate of the power NFET. A digital logic circuit provides the FET-on signal and includes an lpeak gear-shifting circuit that dynamically changes the value of a peak inductor current responsive to one or more determinations that are related to one of the boosted output voltage and a switching frequency of the DC/DC boost converter.

IPC 8 full level
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CPC (source: EP US)
G01N 33/004 (2013.01 - EP US); **G01N 33/0063** (2013.01 - EP US); **H02M 1/0025** (2021.05 - EP); **H02M 1/08** (2013.01 - US); **H02M 1/4225** (2013.01 - EP); **H02M 3/156** (2013.01 - EP); **H02M 3/157** (2013.01 - EP US); **H02M 3/158** (2013.01 - EP); **G08B 17/10** (2013.01 - EP); **G08B 17/11** (2013.01 - EP US); **H02M 1/0009** (2021.05 - EP); **H02M 1/0032** (2021.05 - EP); **Y02B 70/10** (2013.01 - EP)

Citation (search report)
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• [X] EP 3396835 A1 20181031 - MITSUMI ELECTRIC CO LTD [JP]
• [X] EP 2731247 A1 20140514 - DELTA ELECTRONICS INC [TW]
• [Y] US 2015311795 A1 20151029 - YANG XIPING [US], et al
• [Y] US 2016268892 A1 20160915 - GUPTA VISHAL [IN], et al
• [Y] US 5966078 A 19991012 - TANGUAY WILLIAM PETER [US]
• See also references of WO 2020214530A1

Designated contracting state (EPC)
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DOCDB simple family (publication)
US 11205961 B2 20211221; US 2020328679 A1 20201015; CN 114375539 A 20220419; EP 3973627 A1 20220330; EP 3973627 A4 20220831; WO 2020214530 A1 20201022

DOCDB simple family (application)
US 201916384041 A 20190415; CN 202080040901 A 20200413; EP 20791057 A 20200413; US 2020027944 W 20200413